REMARKS

Claims 8-17, 19-28 and 30-42 are pending and under consideration.

In item 6 of the Office Action, the Examiner rejects independent claims 12, 23, and 34 (and respective dependent claims 8-11,13-17, and 40, claims 24-28, 30-33, and 41, and claims 35-39 and 42) under 35 U.S.C. §103(a) as obvious under Alexander, III et al. (U.S.P. 6,002,872) in view of Smolders (U.S.P. 6,253,338) and Yeh et al. (U.S.P. 6,427,206).

Independent claims 12, 23, and 34 respectively recite an apparatus, a computer readable medium, and a method using claim 12 as an example "identifying a type of said branch instruction by obtaining a instruction code from said branch source address and decoding said instruction code; and . . . and when the identified branch instruction is neither a calling instruction nor a return instruction, said interrupt is terminated."

Features Not Discussed By Art Relied on By Examiner

Applicants submit that the features are not discussed by the art relied on by the Examiner, alone or in an *arguendo* combination. As provided in MPEP §2143.03 "To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art.."

In item 3 entitled Response to Arguments, the Examiner contends "Smolders in FIG. 3 clearly illustrates that "next block = return address. . . or in other words, that the address of the next block is the return address."

Applicants submit that the Examiner is incorrect in his contention regarding step 34 illustrated in FIG. 3 of Smolder's.

Rather, Smolder, in detail, discusses (col. 4, lines 30-35) that a "counter level tracing tool 31 saves the address of the beginning of the next basic block of code, which is the address where the interruption came from as shown in step 34" (emphasis added), and not "so as to provide a return address," as the Examiner mistakenly contends.

No Motivation Or Success To Combine Art In A Manner As The Examiner Contends

The Action concedes that Alexander does not discuss an interrupt is generated by execution of a branch instruction, not identifying a type of the branch instruction.

Applicants respectfully submit that the Examiner's contentions in support of such motivation are not in keeping with those as understood by one of ordinary skill in the art. That is, one of ordinary skill in the art cannot substitute code without modifying code or overhead.

The Examiner looks to Yeh to discuss:

> when the identified branch instruction is neither a calling instruction nor a return instruction, said interrupt is terminated. . . which shows not collecting history information when the branch is not a calling instruction or a return instruction.

(Action at page 7)

The Examiner also contends that It would have been obvious:

> to supplement the profiling system of Alexander with the features taught by Yeh and to identify the type of branch, as taught by Yeh, so as to collect branch predictions and enhance the collection of profiles for purposes of speculative execution.

(Action at page 6).

That is, the Examiner is mistakenly contending it is obvious 1) starting with a timer interrupt as discussed by Alexander; 2) to then substitute the timer interrupt with a branch interrupt as taught by Yeh, and then 3) to yet further modify the branch interrupt by not collecting history information when the branch is not a calling instruction or return instruction.

Applicants point out to the Examiner that such combinations and substitution of interrupts are <u>not</u> in keeping with USPTO guidelines. (See, for example, MPEP 2143.01, entitled Suggestion or Motivation to Modify the References that indicates if the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification.)

Applicants further submit that the Examiner is proposing to modify the code of Alexander to an extent that Alexander's discussion of a detection of periodically occurring events based on timer interrupts is no longer possible.

Summary

Since the features recited by claims are not discussed by the art relied on by the Examiner, and there is no motivation to combine the art in a manner as the Examiner contends, *prima facie* obviousness is not established and the rejection should be withdrawn and claims 8-17, 19-28 and 30-42 allowed.

<div align="center">CONCLUSION</div>

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge

the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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